



# AIR WAR COLLEGE

## RESEARCH REPORT

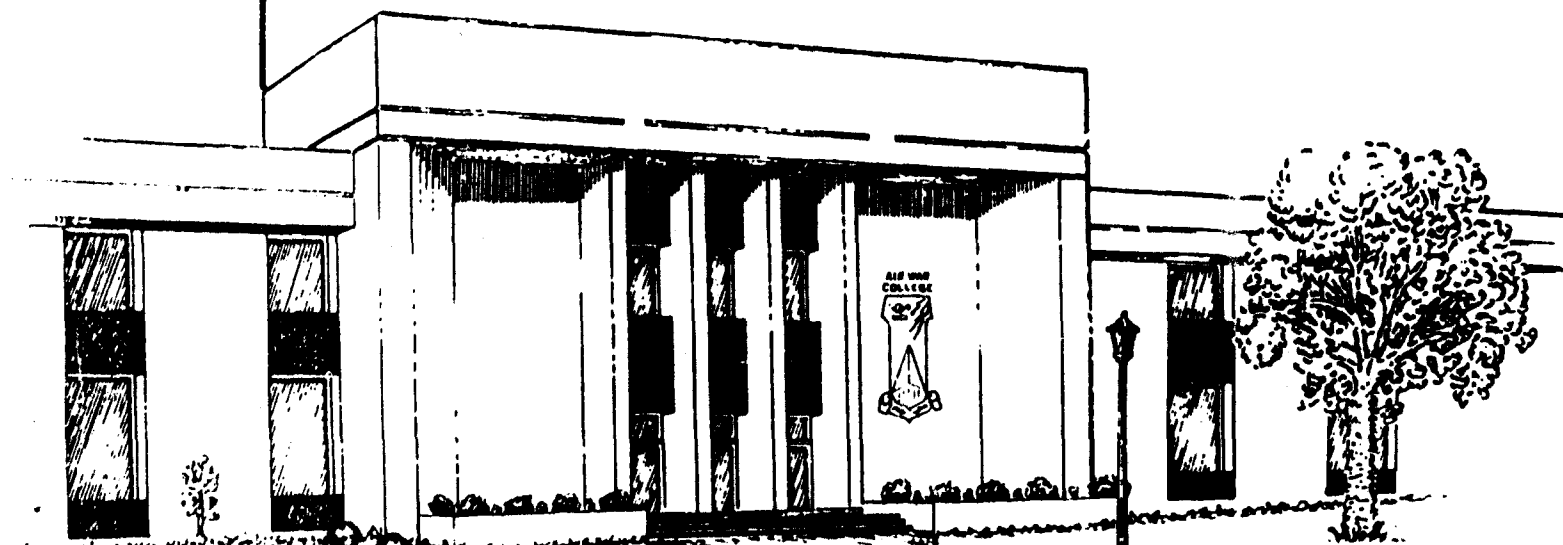
ARGENTINE AIR POWER IN THE FALKLANDS WAR

DTIC  
ELECTE  
S JAN 1 2 1989 D  
D &

LT COL CSABA B. HEZSELY

AD-A202 551

1988



89 1 11 048  
AIR UNIVERSITY  
UNITED STATES AIR FORCE  
MAXWELL AIR FORCE BASE, ALABAMA

APPROVED FOR PUBLIC  
RELEASE; DISTRIBUTION  
UNLIMITED

# ARGENTINE AIR POWER IN THE FALKLANDS WAR

by

**Csaba B. Hezsely**

**Lieutenant Colonel, Canadian Air Force**

**A RESEARCH REPORT SUBMITTED TO THE FACULTY**

IN

## FULFILLMENT OF THE RESEARCH

## REQUIREMENT

**Research Advisor: Dr. William P. Snyder**

MAXWELL AIR FORCE BASE, ALABAMA

May 1988

Approved For	
NIS GRAB	<input checked="" type="checkbox"/>
DEC TAB	<input type="checkbox"/>
Unprocessed	<input type="checkbox"/>
Justification	
By	
Date	
Approved For Release Date	
0-1	
A-1	

## DISCLAIMER

This research report represents the views of the author and does not necessarily reflect the the official opinion of the Air War College or the Department of the Air Force. In accordance with Air Force Regulation 110-8, it is not copyrighted but is the property of the United States government and is not to be reproduced in whole or in part without permission of the commandant, Air War College, Maxwell Air Force Base, Alabama.

Loan copies of this document may be obtained through the interlibrary loan desk of Air University Library, Maxwell Air Force Base, Alabama 35112 - 5564 ( telephone: [205] 293-7223 or AUTOVON 875-7223 ).

## AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

**TITLE:** The Air War in the Falklands 1982: An Argentinian Perspective

**AUTHOR:** Csaba B. Hezsely, Lieutenant Colonel, Canadian Air Force

Remarks about the political motivation behind the Falklands War introduce a discussion of the air war in the Falklands in 1982. A look at the Argentine force structure and employment of air power serves as a background for the author's view that Argentina might have fought a better air war if the political-military interface had been more extensive. This would have permitted for proper planning, resource acquisition, and preparation. The paper concludes that the consequences of not having an integrated approach to war - that is to say, relying solely on air power as the decisive factor, as the Argentinians did - can lead to defeat.

## BIOGRAPHICAL SKETCH

Lieutenant Colonel Csaba Bjorn Hezsely was born in Oslo, Norway, in 1949 and moved to Calgary, Alberta, Canada at the age of two. He joined the Royal Canadian Air Force in 1967 and attended Royal Roads Military College in Victoria, British Columbia, and Royal Military College in Kingston, Ontario, graduating with a BA in Economics in 1971. Following pilot training on the Tutor and the T-33, he flew the Dakota and C-130 before attending the Canadian Forces Aerospace Systems Course in 1977. Upon completing a two year assignment in Ottawa as aide-de-camp to the Governor General of Canada, he returned to flying in 1980 on the Boeing 707. In 1982, he converted to the E-3A (AWACS) at Tinker AFB, Oklahoma, and was posted to the NATO Airborne Early Warning Force in Geilenkirchen, West Germany. Returning to Ottawa in 1985, he spent two years at National Defence Headquarters, Directorate Operational Guidance Coordination. Lieutenant Colonel Hezsely is a graduate of the Air War College, class of 1988.

## TABLE OF CONTENTS

CHAPTER		PAGE
	DISCLAIMER .....	ii
	ABSTRACT .....	iii
	BIOGRAPHICAL SKETCH .....	iv
	TABLE OF CONTENTS .....	v
I	BACKGROUND TO THE FALKLANDS WAR OF 1982 .....	1
II	SEQUENCE OF EVENTS .....	4
III	ARGENTINE AIR POWER - FORCE STRUCTURE .....	5
IV	THE EMPLOYMENT OF AIR POWER .....	11
V	AN EVALUATION .....	18
VI	CONCLUSION .....	22
	APPENDIX A - A CHRONOLOGY .....	27
	APPENDIX B - ARGENTINE AIRCRAFT AVAILABILITY ..	31
	APPENDIX C - ARGENTINE AIRCRAFT LOSSES .....	32
	BIBLIOGRAPHY .....	33

## CHAPTER I

### BACKGROUND TO THE FALKLANDS WAR OF 1982

The Falklands War between Argentina and Great Britain in 1982 was a "national sovereignty" war that neither side really wanted to fight. British Prime Minister Margaret Thatcher, holding the view that great nations do not fight small wars, was reluctant to squander lives and resources over 2000 people on a remote island in the South Atlantic. Argentina, on the other hand, dismissing British military intervention as a possibility, was not properly prepared for the conflict. Yet reclaiming sovereign territory, an emotional issue with patriotism running rampant in both countries, provided the classical Clausewitzian link between politics and war. Although it was a localized war, it was one of the more significant and intense air and naval engagements since World War II. It therefore deserves some investigation and analysis. Readers of Sun Tzu, the Chinese military strategist, will readily point out that the British gained victory "in the shortest possible time, at the least possible cost in lives and effort, and with infliction on the enemy of the fewest possible casualties."<sup>1</sup>

Argentina's President Leopoldo Galtieri, after coming to power on 22 Dec 81, and Admiral Jorge Isaac Anaya, the head of the Argentinian Navy, both had the recovery of the Falkland Islands on their personal agendas. For Galtieri, it was a means to popularity as his military junta needed a success in view of the political oppression and the increasingly poor economic situation in Argentina. For Admiral Anaya, the Falklands was a

---

<sup>1</sup> Sun Tzu, The Art of War, translated by Samuel B. Griffith, Oxford University Press, New York, 1971, p. 39

southern naval base, beyond the reach of Chilean firepower, from which Cape Horn could be controlled. Their timetable for regaining the Falklands was 1983, the 150th anniversary of the British occupation.<sup>2</sup>

Content with the ongoing Falklands negotiations at the United Nations in late February 1982, the British were either not aware of the new Argentinian timetable or misread their intentions. This miscalculation led to the Argentinian invasion of the Falklands on 1 April. If the British were surprised by the invasion, the Argentinians were equally shocked by the sailing of the British Task Force for the Falklands on 5 April. On 7 April, when it became clear that a British military response was a distinct possibility, full scale mobilization in Argentina and an emergency deployment programme commenced. To quote Clausewitz: "Surprise therefore becomes the means to gain superiority, but because of its psychological effect it should also be considered as an independent element. Whenever it is achieved on a grand scale, it confuses the enemy and lowers his morale."<sup>3</sup>

The Argentinian decision to invade, made with no expectation of British military retaliation, was on the understanding that close US - Argentinian ties cultivated with the Reagan Administration would guarantee American neutrality, if not support. The expected neutrality lasted for only a month, however, for once Alexander Haig's shuttle diplomacy failed, President Reagan, on 30 April, announced that the United States would side with the United Kingdom.

---

<sup>2</sup> Sunday Times Insight Team, The Falklands War-The Full Story, Sphere Books, London, 1984, p.29-30

<sup>3</sup> Clausewitz, Carl, von, On War, translated by M. Howard and P. Paret, Princeton University Press, Princeton, 1984, p. 198



This announcement coincided nicely with the arrival of the first of three echelons of naval forces in the Falklands, comprising two carrier groups led by the anti-submarine warfare (ASW) carriers *Hermes* and *Invincible*. On board were 3,500 marines and ground troops along with 20 Harrier aircraft. The British had earlier declared a submarine-enforced 200 mile Maritime Exclusion Zone (MEZ) on 12 April and were now prepared to begin both an air and sea blockade. The imposition of the MEZ was a direct and immediate response to the Argentine claim of sovereignty over the Falklands. Perhaps more important, it was a strategic coup that was strictly observed by Argentina.<sup>4</sup> As a result, after 12 April, military airlift resources were tasked to the limit as most Argentinian supplies and heavy equipment to Port Stanley were airlifted. No one had any illusions about the damage that a British submarine could cause to shipping.<sup>5</sup>

In terms of numbers, Argentina enjoyed a decided advantage both with troops and aircraft and yet lost the war. The explanation lies in the force multiplier effect of isolating Argentina from American support and of isolating the Falklands Islands themselves with the MEZ - - "strategic dislocation" in the words of Liddell Hart. The isolation upset the distribution and organization of Argentinian forces, endangered supplies, separated forces, and placed the route of retreat back to the mainland at risk.<sup>6</sup>

---

<sup>4</sup> Armitage, M.J., Mason, R.A., Air Power in the Nuclear Age, University of Illinois Press, Chicago, 1985, p. 225

<sup>5</sup> Burden, R.A., Draper, M.I., Rough, D.A., Smith, C.R., Wilton, D.L., Falklands The Air War, Arms and Armour Press, London, 1986, pp.16-18

<sup>6</sup> Liddell Hart, B.H., Strategy, The New American Library, New York, 1967, p.326

The British effort was directed toward a clearly defined, decisive and attainable objective that was simply articulated by Prime Minister Thatcher: "Take the Falklands." The Argentinians, not certain whether British attacks would be against the Argentinian mainland or limited to the Falklands, prepared for both. Their objective, by comparison, was vague and ill-defined. It vacillated between victory in the South Atlantic, defending the Falklands, protecting the Argentinian mainland, damaging the British Task Force and preventing the British from winning. The bombing of Port Stanley on 1 May by an RAF Vulcan, which marked the beginning of hostilities, had a profound effect on the Argentinian perception of the possibility of potential attacks on the mainland and influenced the Air Staff planning accordingly.

The factors mentioned above form the background to the Argentinian air campaign: the initial political decision to invade the Falklands with minimal military planning and total disregard of the possibility of British retaliation; the successful establishment of a MEZ by the British; lack of American support or neutrality; and the absence of a clearly defined, decisive objective on which to focus resources. These factors presented Argentine air planners with a formidable challenge as air power became the most visible and active arm of the Argentine military in this conflict.

## **CHAPTER II**

### **SEQUENCE OF EVENTS**

The Falklands War can be divided into four phases. The first - the preparation phase - was from the Argentinian occupation of the islands on 2 April to the arrival of the British Task Force in late April. The next, the naval air phase, lasted from 1 May to 21 May. The third - the amphibious

phase - began with the successful landing of the British troops at San Carlos Water in the Falklands on 21 May and terminated with their on-shore consolidation on 25 May. The last phase was the land war on East Falkland Island from 26 May to 14 June.

In responding to the invasion by sailing the Task Force, Britain had seized the strategic offensive and solidified it with the bombing of Port Stanley on 1 May. The British initiative continued with the sinking of the cruiser *General Belgrano* on 2 May, virtually halting any further major Argentinian naval excursions in the area. In fact, this one event pushed Argentinian air power to the fore of the conflict, since the aircraft carrier '*Veinticinco de Mayo*' returned to and stayed in mainland Argentinian territorial waters for the remainder of the conflict. Once the second naval echelon of the British Task Force arrived in the Falklands area on 18 May, British initiatives were further exploited with these additional resources, allowing the prosecution of the land campaign which resulted in the surrender of Argentine forces on 14 June. Appendix A contains a more detailed chronology.

### CHAPTER III

#### ARGENTINE AIR POWER - FORCE STRUCTURE

At the onset of the Falklands War, the Fuerza Aerea Argentina (FAA) or the Argentine Air Force, under the command of Brigadier General Basilio Lami Dozo, had very few resources in the vicinity of the Falkland Islands (Islas Malvinas). In fact, except for #9 (Transport) Air Brigade,<sup>7</sup> mostly made up of transport aircraft used by Lineas Aereas del Estado

---

<sup>7</sup> Within each Air Brigade, there were three primary organizations - a base group, a technical group, and an aircraft operating group.

(LADE, the state airline), located at Comodoro Rivadavia, the operational air brigades of the Argentinian Air Force were arranged in a somewhat circular pattern around the northern part of the country with Buenos Aires at the three o'clock position (see Figure 1). The five primary commands consisted of: Air Operations Command, which controlled all first-line flying units and associated installations with the exception of those concerned with air defence; Air Defence Command, which controlled interceptor aircraft, air defence radars and anti-aircraft weapons; Training Command; Material Command, responsible for maintenance and some manufacturing; and Air Regions Command which controlled regional Air Force duties through four geographical areas: north, northeast, central and south.

As of 1 April 1982 the operational air brigades were arranged as follows:

**Transport** at Buenos Aires with 7 C130, 2 KC-130H, 3 Boeing 707, 4 F-28, 5 Guarani II, and 5 F-27;

**Reconnaissance and Bombing** at Parana/Santa Fe (northwest of Buenos Aires) with 4 Learjets and 5 Guarani II for reconnaissance and 10 Canberras for bombing;

**Attack** at Reconquista (most northerly base) with 57 Pucarás;

**Fighter (#4)** at Mendoza (in the vicinity of Chile's capital city, Santiago) with 19 A-4C Skyhawks, and 16 F-86F Sabres;

**Fighter (#5)** at Villa Reynolds (southeast of Mendoza) with 26 A-4B Skyhawks;

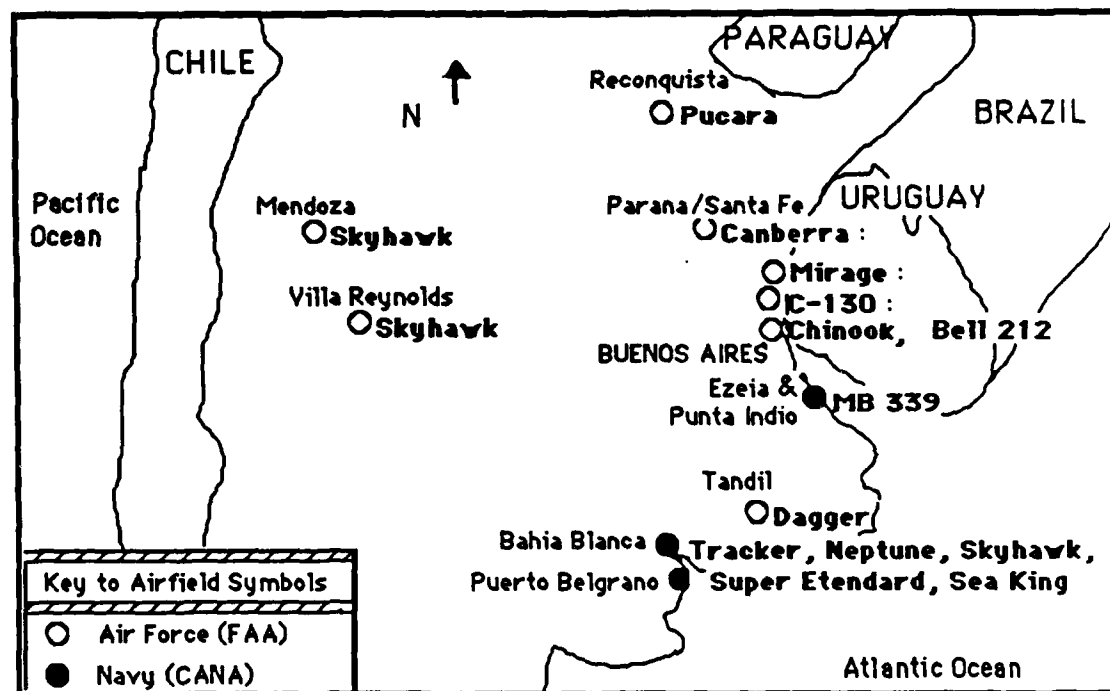


Figure 1

**Fighter at Tandil (south of Buenos Aires) with 35 Daggers;**  
**Helicopter and Special Operations at Buenos Aires with**  
**Chinook, UH-1H, Bell 212, H-369, H-500, Lama, Sea King**  
**and Merlin IV A;**  
**Interceptor at Buenos Aires with 17 Mirages; and**  
**Transport at Comodoro Rivadavia with LADE and Pucarás.**

In addition, the establishment of #10 Air Brigade in Rio Gallegos in southern Argentina was under development with no aircraft on establishment.<sup>8</sup>

The unexpected military reaction of Great Britain caused a temporary restructuring of the FAA, initially involving the creation of two

<sup>8</sup> Burden, *et al. op cit.*, pp. 158-59

new commands, and the shifting of resources to southern Argentina. The Comando Aereo Estrategico (CdoAeEstr) or Strategic Air Command was made responsible for all FAA strategic planning. In practice, this consisted of monitoring the British fleet as it moved south, assessing Britain's general preparations for war, and preparing Argentine battle plans involving airpower. For example, at the tactical level, the Aermacchi MB-339 line pilots were given the task of determining the anti-shipping role for their aircraft with the British carrier battle group some two weeks sailing time away.<sup>9</sup> These last minute taskings highlighted the absence of a proper political-military interface which would have allowed for more thorough and timely planning.

The second new command, Comando Aereo de Transporte (CdoAeTr) or Air Transport Command, was created to organise and mobilise air transport within Argentina and functioned throughout the war without change. The Navy, exhibiting a considerable degree of independence from both the Army and the FAA in most aspects of the war operated its small fleet of transport aircraft - three Electras and three F-28s - outside the otherwise all-embracing CdoAeTr.<sup>10</sup> On 30 April, the CdoAeEstr stood down, and from it evolved a new Comando de la Fuerza Aerea Sur (CdoFAS) or Southern Air Force Command, responsible for active control of all regular and specially created FAA units on both the mainland and on the Falklands.<sup>11</sup> On the Falklands, this control was delegated to the local unified defence command with overall functional coordination achieved through an executive liaison office. This office coordinated air defence,

---

<sup>9</sup> Ibid., p. 29

<sup>10</sup> Ibid., p. 52

<sup>11</sup> Ibid., p. 161

local tactical air support, and forward air control.

The Comando Aviacion Naval Argentina (CANA), or the aviation element of the Navy, was organized in peacetime into six air wings operating from four major bases along the Argentine coast - - at Ezeiza and Punta Indio in the vicinity of Buenos Aires, Bahia Blanca, and Trelew. Unlike the FAA, CANA did not reorganize, but after the permanent return of the aircraft carrier '*25 de Mayo*' to port in early May, there was considerable redeployment, particularly to the southern naval base at Rio Grande in Tierra del Fuego.

The Comando de Aviacion del Ejercito (CAE), the aviation element of the Army, also made no new organizational changes for the war. CAE deployed from its main base at Campo de Mayo, Buenos Aires, with a total of 19 helicopters (2 Chinooks, 5 Pumas, 3 Hirundos, and 9 UH-1H) to the Falklands with their Army Aviation headquarters in the vicinity of Port Stanley.

For a list of Argentine aircraft available at the start of the Falklands, see Appendix B. The location of major Argentine air assets as of 1 May are shown below (see Figure 2):

COMMODORO RIVADAVIA

4 Learjets from Parana

8 Mirages - further deployed to fly out of Rio Gallegos

TRELEW

10 Canberras from Parana that deployed to Rio Gallegos for each mission

SAN JULIAN AIRFIELD

12 Daggers (Squadron 2) from Tandil

12 A-4C Skyhawks from Mendoza

#### RIO GALLEGOS

- 12 A-4B Skyhawks from Villa Reynolds
- 2 KC-130H - most if not all KC-130 refuellers launched from here  
(Forward Operating Base for Mirages and Canberras deployed from  
Comodoro Rivadavia and Trelew respectively)

#### RIO GRANDE

- 12 Daggers (Squadron 3) from Tandil
- 4 Super Etendards
- 10 A-4Q Skyhawks
- 6 ASW Trackers
- 2 ASW Neptunes (until 15 May)
- 6 Alouette IIIs
- 5 Sea Kings
- 3 Skyvans
- 2 Pumas

On the Falkland Islands, the aircraft were disposed as follows:

#### MALVINAS (Stanley Airport) and vicinity (Moody Brook)

- 16 Pucaros - dispersed to Goose Green in April but later returned
- 4 Aermacchi 339A's - (2 additional aircraft sent on May 14)
- 2 Chinooks
- 3 Hirundos
- 9 UH-1H's
- 1 Skyvan
- 6 Pumas

#### CONDOR (Goose Green)

- Pucaros (deployed from and redeployed to Port Stanley)
- 2 Chinooks and 2 Bell 212's

#### CALDERON (Pebble Island)

- Pucaros (deployed from and redeployed to Port Stanley)
- 4 Mentors

Note: Argentina ferried twelve replacement Pucaros from the mainland to the Falklands from 15 May to 28 May when it was recognized that to continue to do so was futile.



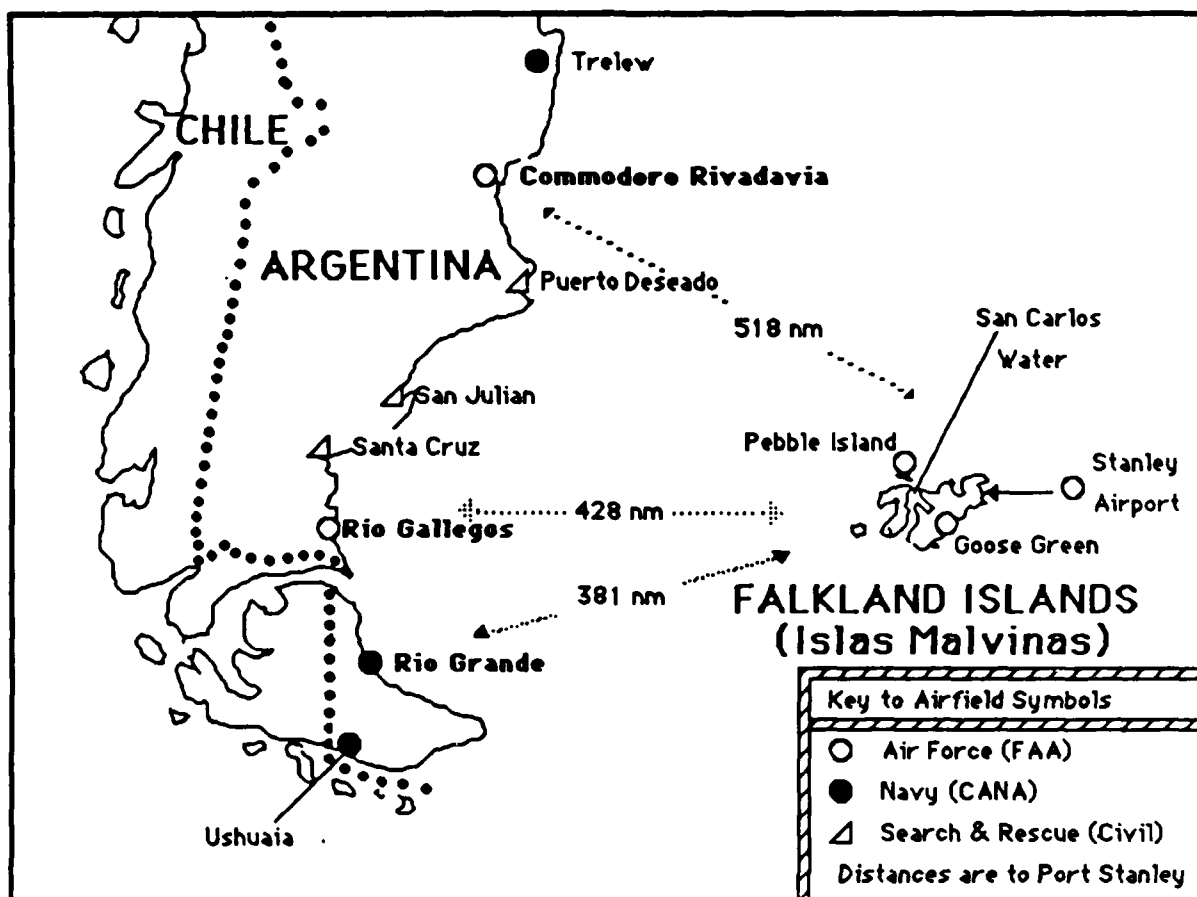


Figure 2

## CHAPTER IV

### THE EMPLOYMENT OF AIR POWER

The full effect of air power can only be achieved where doctrine, technology, and tactics are in consonance with each other and in relation to other forces. Argentina had shortfalls in many areas. Argentine air doctrine was bankrupt in terms of the Falklands War as it had not considered Great Britain to be a viable threat and therefore did not incorporate a requirement for long range air assets. Although Argentina

enjoyed numerical superiority in aircraft, the Falkland Islands were at the operational range limits of her mainland-based combat aircraft, and some of her aircraft, such as the ASW Neptune, were old and unreliable. One shining example of modern technology, by contrast, was the Super Etendard flying the Exocet missile. Few in numbers, this combination created considerable damage to the British Task Force with the sinking of the *HMS Sheffield* and the *Atlantic Conveyor*. However, air power alone was not able to carry the day. Due to a lack of submarines, strategic bombing capacity, air refuelling resources, fighter aircraft, surveillance capabilities, and weapons, Argentina was unable to interdict the sea lines of communication - the lifeline of the British Task Force - that would have truly hampered the British war effort. Consequently, Argentina was forced to remain a comparatively passive participant in the conflict.

In contrast to the the inadequacies of doctrine, Argentine tactics showed remarkable flexibility and adaptability. As an example, tactics for the employment of the Canberra bomber seemed to evolve as the war progressed. Initially, they were used in the anti-shipping role. However, with the high level of British radar defenses and the Canberra's rudimentary electronic countermeasures (ECM) / electronic surveillance measures (ESM) equipment they were withdrawn from this role in early May and were not tasked again until the land campaign was underway with high level night bombing missions on 29 and 31 May in the San Carlos area. These bomb drops over predetermined coordinates caused very little damage to British troops and the aircraft were then given the new role of

low level night bombing attacks on British positions in the Mount Kent area.<sup>12</sup>

The Argentinians felt that the first British air attack would coincide with a full scale invasion of ground troops at Port Stanley, and their strategy was a programme of retaliatory air-strikes directed at warships close inshore.<sup>13</sup> By 29 April, all the FAA combat squadrons assigned to the southern bases were poised to counter-attack the British amphibious assault on the Falklands,<sup>14</sup> and on 1 May, a maximum effort anti-shipping strike was launched by Argentina. The strike involved 16 A-4B and 12 A-4C Skyhawk sorties, six Canberra, 12 Dagger, and ten Mirage III EA sorties. The Skyhawks were to be launched as seven flights of four, the Canberras as two flights of three, with the Daggers and Mirages operating, in pairs, in the escort role. All FAA sorties were to be guided to targets by operations controllers in Port Stanley, but with no intention of trying to establish air superiority over the islands as such and with the interceptors to be used solely in the escort role.<sup>15</sup> Of the 56 planned sorties, only 35 "reached targets" and while Argentina has never been specific about what those targets were, none of the Skyhawks, and only three Daggers, actually found and attacked British warships.<sup>16</sup>

In view of the loss of 2 Mirages, 1 Dagger, and 1 Canberra to the British Harriers on the first day of the air campaign, and the realization that the ground troops had not yet landed, Argentina severely curtailed its high sortie rate of 1 May. This was a defensive posture to conserve

---

<sup>12</sup> *Ibid.*, pp. 91-93

<sup>13</sup> *Ibid.*, p. 21

<sup>14</sup> *Ibid.*, p. 77

<sup>15</sup> *Ibid.*, p. 21

<sup>16</sup> *Ibid.*

resources as part of the overall plan to avoid an air war of attrition. Although a number of sorties were flown, the CANA Skyhawks, once disembarked from the aircraft carrier '*25 de Mayo*', spent from 9-20 May at Rio Grande flying operational training missions in anticipation of the flying surge which would occur with the British landings on the Falklands.<sup>17</sup>

On the Falkland Islands, those aircraft capable of offensive use - MB-339A's, the only aircraft with an anti-shipping capability, the Pucarás, and Mentors - were used on an ad hoc basis against targets as they presented themselves.<sup>18</sup> The impact of the four CANA Aermacchi MB-339 advanced training aircraft with their 30mm cannons and four 5" rocket pods was minimal and the potential of the Falklands-based aircraft was abruptly ended with the successful British SAS Commando raid on Pebble Island on 15 May which destroyed 11 aircraft on the ground on May 15.

By 21 May, when the British amphibious landing took place, the CdoFAS had modified its mission profiles and all Air Force Skyhawk sorties were air-refuelled shortly after their departure, with the KC-130H on station to help recover them after their mission. Isolated sorties were temporarily abandoned and groups of fighter-bombers, often from multiple mainland bases, were scheduled to arrive over the target within a short space of time in order to create maximum confusion to British defences.<sup>19</sup> For the 21 May amphibious landing, CdoFAS had pre-planned 63 fighter-bomber sorties and dispatched 54 of them. 12 CANA Skyhawk

---

<sup>17</sup> *Ibid.*, p. 41

<sup>18</sup> *Ibid.*, p. 21

<sup>19</sup> *Ibid.*

sorties were also planned but the first six were recalled en route because of vague target information. A total of 60 Dagger and Skyhawk sorties thus reached at least as far east as West Falkland in pursuit of the "maximum effort" strategy.<sup>20</sup> Poor weather on 22 May and the morning of 23 May prevented further operations so that by the end of 23 May, only 20 or so FAA aircraft reached the San Carlos area. By 24 May, the British Rapier batteries were well established and provided a formidable surface-to-air threat to any attacking Argentine aircraft.<sup>21</sup>

Consolidated figures for the period 21 to 25 May show that 167 combat sorties were dispatched from mainland bases of which 106 reached targets in the Falklands. A total of 19 aircraft were lost in these attacks, and by 26 May, the struggle was effectively over as British forces were in firm control of the beach-heads at San Carlos Water.<sup>22</sup>

FAA Ops were somewhat muted in early June as a result of several factors. Attrition and the need to review tactics in the light of British successes were obviously significant, but continuing poor weather and the domination of the Falklands' skies by the Sea Harriers also had an inhibiting influence.

In terms of the three fundamental and critical factors of warfare -- firepower, mobility, and freedom to exploit both -- Argentina was not in a strategically advantageous position. With the Mirages and Daggers restricted to the mainland after the 1 May losses, firepower was limited to five Exocets launched from the four available Super Etendards, the lightly equipped Pucaras on the Falklands, and to the 500 pound iron bombs

---

<sup>20</sup> *Ibid.*, p. 23

<sup>21</sup> *Ibid.*, p. 120

<sup>22</sup> *Ibid.*, p. 24

launched from the mainland-based Skyhawks. The detonation rate of these bombs was greatly reduced because of their fusing and the extremely low altitude at which the Skyhawk pilots released the bombs. Mobility was extremely limited in the sense that mainland-based aircraft were operating at the extreme limits of their range, allowing little time for loitering or target acquisition, and even less opportunity to use afterburner and still return to the mainland. With the British Task Force running a racetrack pattern well to the east of the Falklands and the limited Argentine air resources available on the Falklands themselves, the freedom to exploit both firepower and mobility was limited, if not denied.

Another deficiency which the Argentinians tried valiantly to overcome concerned real time reconnaissance and intelligence. Transport aircraft were initially used for long-range reconnaissance in a rather novel way. A Boeing 707 was dispatched on 21 April and located the British Task Force as it was transitting south to the Falklands. Daily encounters with the scrambled Sea Harriers continued until 24 April at which time Argentina received word through diplomatic channels that future Boeing flights would be fired upon.

Learjets were used as reconnaissance aircraft and pathfinders for the Daggers and Skyhawks. They flew 129 sorties and were airborne for a total of 342 hours.<sup>23</sup> In addition, late in the war, Learjets and C-130s began aiding Skyhawk missions by relaying precise positions of British radar picket ships to attacking pilots.<sup>24</sup>

Still on the subject of reconnaissance, the retirement of the ASW Neptune aircraft on 15 May resulted in an acrimonious debate between the

---

<sup>23</sup> *Ibid.*, p. 89

<sup>24</sup> *Ibid.*, pp. 121-122

FAA and CANA over who should be providing maritime reconnaissance data to CdoFAS. The FAA had no means to strike successfully at British warships unless it could update its original briefing with real-time information after the aircraft were airborne. With some bitterness, the mission was accepted by the FAA and after fitting a C-130 with a radar warning receiver (RWR), the first reconnaissance mission flew on 25 May. The profile called for five pop-up radar searches of 90 seconds each along a meridian of longitude (59°W) north of the Falklands at 34 mile intervals. Repeated on 28 May, this mission profile resulted in the loss of a C-130E on 1 June, apparently terminating the reconnaissance debate.<sup>25</sup>

A total of 100 Argentine aircraft were lost in the conflict. The bulk of the losses was borne by the Air Force with 63, with the Army absorbing 20, the Navy 14, and the Coast Guard 3. When the losses are plotted on a daily basis, four "spikes" occur: 1, 15, and 21 May and 14 June. The two most relevant spikes are on 1 May (7 losses), when sorties were launched in the anticipation of a British landing that did not materialize and 21 May (14 losses) when sorties were flown against the amphibious landing in Port San Carlos. The 15 May losses (11 aircraft) were those destroyed on the ground by the SAS on Pebble Island and on the last day of the war, 14 June, 30 out of the 31 losses were those aircraft captured in various states of repair on the East Falklands.

According to Ethell and Price, 32 Argentine aircraft were destroyed by AIM-9L Sidewinders or the 30mm cannon on the Sea Harrier; 20 were destroyed by surface-to-air missiles and small-arms fire; 32 were captured on the East Falklands, and 18 aircraft were destroyed during the

---

<sup>25</sup> *Ibid.*, pp. 80-81

SAS attack on Pebble Island, on the *General Belgrano*, and in operational accidents. This totals 102 with the two aircraft discrepancy accounted for by differing start dates for the air campaign and by the treatment of mainland training accidents.<sup>26</sup>

## CHAPTER V AN EVALUATION

The loss of the Falklands can be traced to the initial political decision to invade the islands. A serious British reaction was considered "scarcely possible" and "totally improbable" with the expectation that the Royal Navy's main function, aside from saving face, would be limited to strengthening London's negotiating position.<sup>27</sup> By failing to consider the possibility of British military retaliation, the proper planning, procurement, and preparation that could have gone into the campaign was not undertaken. That, plus the lack of good reconnaissance and intelligence data, was to plague the FAA throughout the war.<sup>28</sup>

Even after it became obvious that the British were retaliating militarily, it appears that Argentina was content with its strategic defensive position. Otherwise, she might have expanded the 4000 foot runway in Port Stanley to accommodate FAA combat jets instead of the token 200 foot extension accomplished by the Argentine engineers. This turned out to be a critical omission as a 400 to 500 mile Argentine radius of action from Port Stanley would have impacted heavily on the

---

<sup>26</sup> Ethell, J. and Price, A., Air War South Atlantic, MacMillan Publishing Company, New York, 1983, p.72

<sup>27</sup> Koburger, C.W., Sea Power in the Falklands, Praeger Publishers, New York, 1983, p.21

<sup>28</sup> Burden, et al., op cit., p.90



employment of the British Task Force and its Harriers, with their much smaller radius of action. It might be noted that one of the first post-conflict British engineering priorities was the extension of the Port Stanley runway so that it could accommodate F-4 Phantoms - a task accomplished in two weeks using captured Argentine rock crushing equipment.<sup>29</sup>

The Mirage/Canberra/Dagger engagements with the Sea Harrier on 1 May had a telling effect on Argentine pilots for the remainder of the war. It is clear from the way Argentine aircraft were being vectored toward Harriers by the Port Stanley controllers on that first day of the air war that the effectiveness of the Sea Harrier had been underestimated. The manouverability of the Harrier, the lethality of its Sidewinders, and the training of the British pilots made dogfighting a rather one-sided contest,<sup>30</sup> the outcome being that Argentine pilots did not deliberately enter into air fights with British Harriers for the remainder of the war.

The 2 May debacle with the aircraft carrier '25 de Mayo' deserves closer attention. The carrier was ready, loaded, and waiting to launch eight Skyhawks at dawn. Yet the mission was aborted. Reasons given include that a S-2E Tracker could not locate the British warships on its radar, despite two recent fixes by separate Tracker sorties, with one being less than four hours prior to mission briefing time. Many sources have suggested that unusually light winds that morning prevented the Skyhawks launching at their maximum take-off weight.<sup>31</sup> But what about taking off with less than a full fuel load? How about "buddy fuelling"?

---

<sup>29</sup> Paterson, Robert, and Lombardy, Don, "The Forward Airfield", NATO's Sixteen Nations, Brussels, Vol. 32 No. 2, April 87, p. 83

<sup>30</sup> Burden, et al. op cit., p.146

<sup>31</sup> Burden, et al. op cit., p. 39

taking off with less than a full fuel load? How about "buddy fuelling"? What about using the KC-130H from the mainland for refuelling? Even in a calm wind, the carrier could generate speeds close to 15 knots. Whether the aircraft should have been able to take off in the cold temperatures of the South Atlantic in May bears closer investigation.

One possible explanation might be that the decision was directed from higher authority as a result of the bombing of Port Stanley earlier on 1 May. A message allegedly sent at 2307Z on 1 May from Vice-Admiral Lombardo at Comodoro Rivadavia instructed Commodore Allara on '25 de Mayo' to withdraw all elements of his task force and to discontinue offensive operations. That message was allegedly reiterated at 0419Z on 2 May. President Belaunde of Peru had made a peace proposal to both Britain and Argentina that included a cease-fire, a mutual withdrawal of forces, temporary administration of the islands by a third party and a fixed time for settlement. Apparently Argentina was seriously considering the plan before any major bloodshed took place, and on 2 May her foreign minister, Costa Mendez, was quoted as saying: "We have an agreement. We can accept this."<sup>32</sup> However, once the *General Belgrano* was sunk with the loss of 300 Argentine lives on the afternoon of the same day, the issue became academic as Argentina could not accept such an attack on her honour and pride, as she would now be negotiating from a position of weakness.

Given the successes of the AM39 Exocet missile, the Super Etendard was among the most heralded of aircraft of the Falklands War. However, with only five aircraft in the inventory<sup>33</sup>, each with one Exocet, a

---

<sup>32</sup> Sunday Times Insight Team, *op cit.*, p. 170

<sup>33</sup> Only four were operational with the fifth aircraft used for spare parts

prolonged campaign could not be maintained. The Super Etendard aircraft had been received from France in November 1981 with a further delivery of five expected in April 1982. Unfortunately for Argentina, these did not materialize because of the arms embargo enacted at the time. With advance knowledge of the invasion, additional Exocets could have been procured and the initial invasion delayed until the aircraft were on the line with properly trained crews.

In order to maintain the possibility of obtaining air superiority over the Falklands and preserving it on the mainland, the Argentine air staff was certainly not willing to run a war of attrition. They may have underestimated the havoc that the 17 Sea Harriers caused in the first two weeks of the war and, with hindsight, might have expended some resources to reduce their numbers. Their decision, however, was to attack the troop-carrying ships that were coming to the Falklands, and they were dedicated to conserving their air assets to this end. Unfortunately for Argentina, San Carlos Water provided a protected amphibious landing, and the way in which the British effected the night landing, deployed the gun-line ships, and set up land-based SAM positions, the amphibious troop carrying ships were extremely well protected.

Argentina's force structure was inadequate to fight the war. She was deficient in maritime reconnaissance, air refuelling, Airborne Early Warning (AEW), and Electronic Intelligence (ELINT). The two Neptunes were obsolete and too vulnerable in a war with modern electronics and weaponry. Even in the absence of a suitable replacement, both Neptunes were withdrawn from operational use. The only loss of a C-130 in the conflict on 1 June was attributable to the attempt to fill the maritime reconnaissance void.

With the Falklands at the extreme range of the mainland-based combat aircraft, additional air refuelling resources would have been necessary to act as a force multiplier. With sufficient air refuelling assets, the Task Force may have been forced further to the east, turning the tables on the Harriers by placing them in the precarious position of having little or no time to loiter over the Falklands.

## CHAPTER VI

### CONCLUSION

The paramount factor in the Falklands conflict was that the Argentine military was unprepared and taken by surprise. Still, a few concluding remarks may be appropriate in terms of traditional air power missions: air superiority, offensive air, air mobility, and combat support missions.

Neither side truly had air superiority to any significant degree, with the result that Argentina took heavy losses in aircraft and Britain in ships. In terms of offensive counter air, Argentina made a conscious decision not to engage the Harriers after the initial aerial encounters on 1 May and thereafter limited herself to anti-shipping targets. Defensive counter air preparations, including the maintenance of air defence radar and Mirage and Dagger aircraft at the ultimate "vital point" area - the mainland - took precedence. On the Falklands themselves, radars and surface-to-air missiles were deployed in this role, but no combat aircraft were sent to the islands.

Argentina had few, if any, resources which could be applied against British military, economic, and industrial capabilities. First, in terms of strategic offense, Argentina had no capability to inflict attacks on

strategic high value targets. In terms of long range interdiction, Argentina did not have the resources to inflict damage on targets such as the second and third echelons of the British Task Force while in transit or on the unprotected refuelling tenders transiting from Ascension Island to resupply the Task Force. Neither was it able to attack Ascension Island which the British used as a staging base or the unprotected British and American tankers transporting fuel to Ascension for onward transmission to the Falklands.

Second, in terms of tactical offensive or offensive air support, Argentina's efforts at interdiction and close air support proved marginal at best. After the 15 May British Commando strike on Pebble Island, which destroyed 11 aircraft on the ground just prior to the British amphibious landing on West Falkland Island, the deployment of Argentine air power in support of the land battle proved too little and too late. Once the British amphibious landing at San Carlos had taken place, Argentine flying was curtailed, with the exception of Canberra high and low altitude bombing attacks at night, which proved to be of negligible value. The few Pucara sorties generated by replacement aircraft from the mainland were destroyed by Blowpipes and Harriers. As a result, both battlefield interdiction and close air support can be considered ineffective from an Argentine perspective.

Argentina was most effective in the maritime strike role, in particular with the Exocet missile launched from the Super Etendard. Rather than sink the *Sheffield*, early in the conflict (see Appendix A), a more effective use of the five Exocet missiles available might have been against more lucrative targets such as the *Hermes* and the *Invincible*, which were serving as British "airfields". The destruction of either

carrier would have impacted heavily on the British war effort. The effectiveness of the Skyhawks would have been devastating if the weapons delivery technique and bomb fusing had allowed for bomb detonation. But because of the very low delivery altitude and fuse setting, many of the bombs went through the ships or lodged in them without exploding.

Turning to air mobility, the predominantly C-130 air bridge to Port Stanley will remain one of the outstanding achievements in transport aviation and the war. It not only transported supplies to the Falklands after the MEZ was declared on the 12 April, but even after the British Task Force arrival on 30 April night flights continued regularly until the day before the war ended. In spite of repeated British bombings, C-130s and other transport aircraft used a 45 foot wide strip on the northern half of the runway. The Argentinians bulldozed earth onto the runway to form craters to indicate "false" runway damage in British reconnaissance photographs. During the 73 day war, 74 C-130 missions were planned, 61 dispatched and 33 landed with 417 tons of supplies and 514 passengers, evacuating 264 wounded. Included in these figures were the air drops resupplying the outlying garrisons of Darwin (8 tons) on 19 May, and Fox Bay East (9.5 tons) on 20 May.<sup>34</sup> Limited movement of Argentine troops on the island was done mostly by helicopter.

Although combat support missions have low visibility, they are great force effectiveness multipliers. Had Argentina had access to a continuous AWACS platform, her combat losses would have been

---

<sup>34</sup> *Ibid.*, pp. 79 and 82

minimized. Aerial engagements could have been planned with full knowledge of carrier locations and Harrier dispositions at any given time. Argentina could have made better use of the force multiplier effect of air refuelling on the 1 May flying surge and to support the Skyhawk departure from the aircraft carrier '25 de Mayo' the next day. Overall, there appeared to be very little coordination in the planning stages between CANA and the FAA, and it was mostly the exigencies of the war that brought them together to coordinate and cooperate over scarce air refuelling assets. Nevertheless, the KC-130H's employed in the air refuelling role played a significant part in allowing the Skyhawks to carry out their missions with sufficient fuel to manouver and engage afterburner in the target area, lessening concern over not having sufficient fuel to make it back to mainland Argentina.

#### SUMMARY

In closing, what can we say about the "lessons" of this war? It certainly was a "come as you are war", but it differed from most in that it involved an unexpected enemy against which no long term preparations had been undertaken. The high level of innovation and flexibility displayed by Argentina once the actual fighting began resulted in heavy British naval losses. However, the long range strategic planning and the resultant force structure were deficient; the only way that victory would have been achievable for Argentina was by sinking the *Hermes* and the *Invincible*. Using an outdated ASW platform initially, and without the use of AWACS and more abundant air refuelling resources, Argentina was relegated to an arduous air campaign of flying sorties on outdated information in aircraft with limited range. Unable to interdict British supply lines or to easily attack the Task Force, Argentina was on the defensive, and with British

control of the sea -- both surface and sub-surface -- Argentine troops on the Falklands were at a decided physical and psychological disadvantage.

The Argentine air staff executed a conservative air campaign given the limited resources, range limitations, and its strategy of preventing an air war of attrition. Its focus was mainly on protecting the Falklands - a limited objective - adopting the standard assumption that air power would be the decisive factor in the conflict. With numerical superiority, they thought they could adopt a defensive approach, and therefore maintain the upper hand in the air once British land forces were committed on the island. However, air power is but one integral part of warfare and must be seen in its correct perspective. Argentine sea power was trapped near the mainland and the Argentine land forces, isolated on the Falklands, made no effort to contest the British amphibious landing at San Carlos. A balanced approach to any conflict over a group of remote islands would have included sea control as a crucial element, heavily dependent on air power not only for surface cover, but for sub-surface ASW work. This was definitely not the case with Argentina. Britain, on the other hand, had total control of the sea, and although she could not claim air superiority over the Falklands, the British enjoyed a decided strategic advantage.

The Falklands War, as seen from an Argentinian perspective, is a modern day example underlining the requirement that air warfare be integrated and balanced with other military capabilities in order to achieve victory. Although it is flexible and capable, the Argentine air campaign proved that air power alone is not enough!



## APPENDIX A - A CHRONOLOGY

### PREPARATION PHASE

**29 Mar - 2 Apr** - "Operation Rosario" Recovery of the Islas Malvinas (The Falklands) by Argentina

**7 Apr** - Senior military staff in Buenos Aires realize that a serious misjudgment in estimating British response had been made. Full-scale mobilization and emergency deployment programmes were rapidly created.

**12 Apr** - Declaration of a 200 mile MEZ around the Falklands by the British

**25 Apr** - Argentine submarine '*Sante Fe*' sank in Grytiken Harbour in South Georgia Island as a result of British helicopter-fired missiles.

**30 Apr** - Arrival of first of three British Task Forces in the Falklands area.

- British redesignated the MEZ as a Total Exclusion Zone (TEZ)
- United States publicly supported Great Britain

### NAVAL AIR PHASE

**1 May** - RAF Vulcan bombing of Port Stanley airfield, followed by Sea Harrier attacks on the airfields at Port Stanley and Goose Green.

- Argentine surge operation - 10 Mirage, 12 Dagger, 6 Canberra, and 28 Skyhawk sorties dispatched. 35 reached their assigned combat areas with the loss of 2 Mirages, 1 Dagger, and 1 Canberra.<sup>35</sup>

**2 May** - Argentine carrier '*25 de Mayo*' at the northwest edge of TEZ missed opportunity to launch a naval air attack against the British Task Force at dawn

---

<sup>35</sup> Ethell, J. and Price, A., op cit. p. 224

-Argentine cruiser, *General Belgrano*, sunk by British submarine *Conqueror*

**4 May** - British attack on Goose Green. First Harrier loss.

- Argentine Exocet attack on the destroyer HMS *Sheffield* (2 Exocets used)

**5 May** - Royal Navy Task Force withdraws to the east of the Falklands

- '25 de Mayo' disembarked her aircraft and returned to home port

**6 May** - loss of two British Sea Harriers due to possible mid-air collision. Sea Harrier strength decreased to 17.

**9 May** - Sea Harriers sank the Argentinian trawler *Narwal*

- Two Grupo 4 Skyhawks crashed into South Jason Island in poor visibility - HMS *Coventry* destroyed a Puma helicopter operated by the Argentine Army over Port Stanley with a Sea Dart missile

**12 May** - Grupo 5 Skyhawks attacked British warships bombarding Port Stanley airfield - *Glasgow* and HMS *Brilliant*. *Glasgow* withdrawn for repairs. Four Skyhawks and pilots lost, two to the Sea Wolf missile.

**15 May** - British Commandoes raided the airfield at Pebble Island in the East Falklands and destroyed a radar station and 11 aircraft: 6 Pucaros of Grupo 3, four Turbo-Mentors of the 4<sup>th</sup> Naval Attack Escuadrilla, and a Skyvan transport belonging to the Coast Guard.

**15 May** - Argentine Neptune ASW patrol aircraft were retired from service.

**18 May** - The second echelon Task Force(14 combatants, 9 auxiliaries) with six GR MK 3 Harriers, eight Sea Harriers and ten helicopters arrived

in the operational area on the *Atlantic Conveyor*.<sup>36</sup> Harrier strength at 31.<sup>37</sup>

### **THE AMPHIBIOUS LANDING PHASE**

**21 May** - British amphibious landing on the Falkland Islands at San Carlos Bay.

- 50 Argentine sorties from the mainland flown with formations of 3 to 6 aircraft. Losses were 5 Skyhawks, 5 Daggers, 2 Pucarás, 2 Pumas, and 1 Chinook - HMS *Ardent* sank

**22 May** - five battallions of marines and paratroops dug in at San Carlos Water with protective batteries of Blowpipe and Rapier missiles

**24 May** - HMS *Antelope* sank as a result of bomb hits the day before

- British LSTs *Sir Galahad* and *Sir Lancelot* damaged

**25 May** - surge flying by Argentina

- HMS *Coventry* sunk

- Exocet attack on the container ship *Atlantic Conveyor* (2 Exocets used)

- 5500 British troops and 5000 tons of supplies and equipment landed in San Carlos since 21 May

### **LAND WAR PHASE**

**27 May** - British Forces attack Argentine positions at Darwin/Goose Green

**28 May** - Close air support missions flown by Harriers and Pucarás for respective forces

---

<sup>36</sup> Bruner, R.M., Major, "Soviet Military Science and the Falklands Conflict", US Naval Institute Proceedings, Vol 111/11/93 November 1985, p.90

<sup>37</sup> A third echelon (7 combatants, 11 auxiliary vessels) with 20 Harriers on the *Atlantic Causeway* arrived in the Falklands area as the war was coming to a close in June.

- Darwin captured by the British

**29 May** - modified C-130 as an improvised bomber attacked the *British Wyø*, a fuel ship located 830 miles to the north of the Falklands - no damage.

**30 May** - Last air-launched Exocet attack against British shipping

- British advance to Port Stanley continued

**1 June** - Argentine C-130 destroyed by Harrier north of San Carlos Water

**3 June** - RAF Vulcan Shrike radar-homing missile attacks at Port Stanley. Unable to return to Ascension Island due to a broken refuelling probe, the bomber recovered at Rio de Janeiro, Brazil

**5 June** - 850 ft airstrip of aluminum matting built by the British at the San Carlos beachhead as a forward strip for the Sea Harriers

**7 June** - Argentine Learjet on a reconnaissance mission at 40,000 ft destroyed by a Sea Dart missile from HMS *Exeter*

**8 June** - LSTs *Sir Galahad* destroyed and *Sir Lancelot* damaged by Skyhawks in Buff Cove, seven miles south of Port Stanley

**12 June** - Surface to surface version of the Exocet launched from Port Stanley and damaged the destroyer HMS *Glamorgan* at a range of 18 miles

**13 June** - British troops made night assaults against positions around Port Stanley

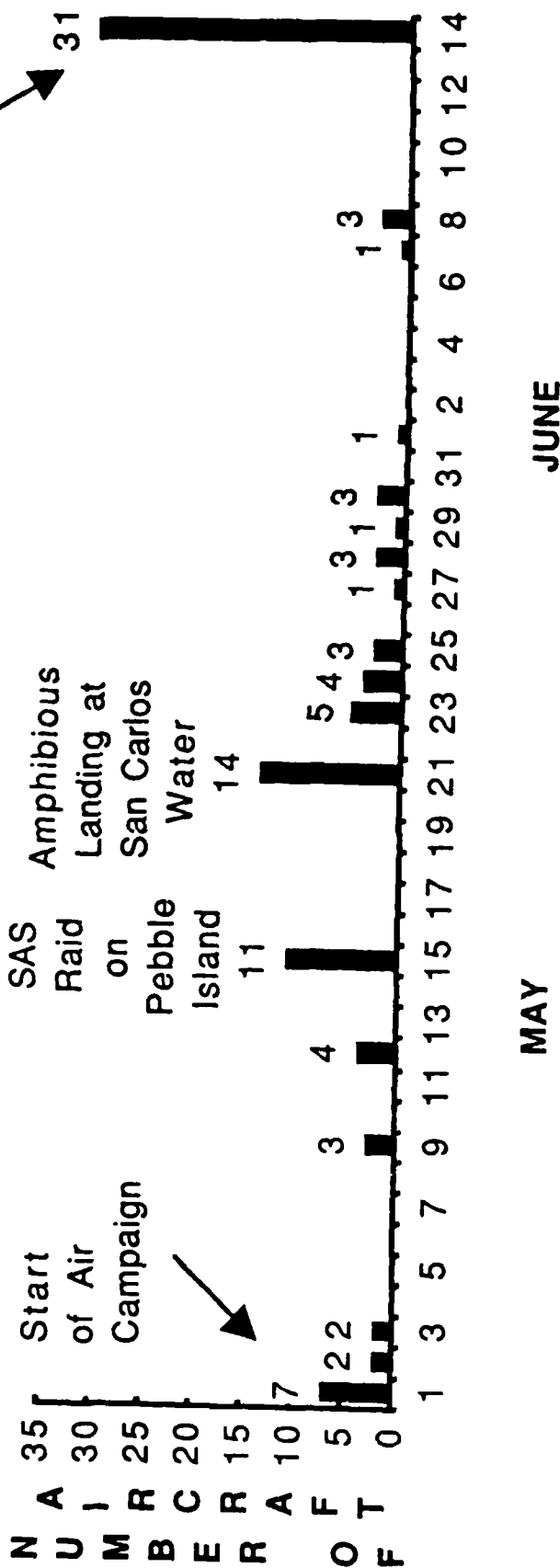
**14 June** - Formal surrender of Argentine Forces

# APPENDIX B - ARGENTINE AIRCRAFT AVAILABILITY

	Number of Argentine Aircraft Available 1 Apr 82	Common Aircraft Name	Number of Aircraft Lost In War
	3	Aeritalia G.222	
	7	Aermacchi 326	
	10	Aermacchi 339	5
	17	Aero Commander	
	9	Alouette IIIs	1
	8	Bell 212	2
	3	Boeing 707	
	10	Canberra	2
	4	Chinook	2
	35	Dagger	11
	3	Electra	
	10	Fellowship	
	13	Friendship	
	17	Guarani II	
	9	Hercules	1
	9	Hirundos	3
	1	HS.125-400B	
	13	Hughes 369	
	9	Hughes 500	
	8	King Air 200	
	9	Lamas	
	6	Learjet 35A	1
	2	Lynx	1
	15	Mentor	4
	6	Merlin	
	17	Mirage	2
	4	Neptunes	
	12	Paris	
	3	PC-6B-H2	
	71	Pucara	25
	11	Puma	7
	7	Queen Air 80	
	2	S-58T	
	16	Sabre	
	2	Sabre 75A	
	7	Sea Kings	
	59	Skyhawks	22
	5	Skyvan 3M	2
	5	Super Etendard	
	4	Trackers	
	8	Twin Otter	
	26	UH-1H	9
	85	Utility Aircraft	
TOTAL	577	NUMBER LOST	100

# APPENDIX C - ARGENTINE AIRCRAFT LOSSES

## ARGENTINE AIRCRAFT LOSSES FALKLANDS WAR 1982



## BIBLIOGRAPHY

Armitage, M.J., Mason, R.A., Air Power in the Nuclear Age, University of Illinois Press, Chicago, 1985

Bruner, R.M., Major, "Soviet Military Science and the Falklands Conflict", US Naval Institute Proceedings, Vol. 111/11/993 November 1985

Burden, R.A., Draper, M.I., Rough, D.A., Smith, C.R., Wilton, D.L., Falklands The Air War, Arms and Armour Press, London, 1986

Clausewitz, Carl, von, On War, translated by M. Howard and P. Paret, Princeton University Press, Princeton, 1984

Ethell, Jeffrey, and Price, Alfred, Air War South Atlantic, MacMillan Publishing Company, New York, 1983

Koburger, C.W., Sea Power in the Falklands, Praeger Publishers, New York, 1983

Liddell Hart, B.H., Strategy, The New American Library, New York, 1967

Nordeen, L.O., Jr., Air Warfare in the Missile Age, Smithsonian Institution Press, Washington, D.C., 1985

Paterson, Robert, and Lombardy, Don, "The Forward Airfield", NATO's Sixteen Nations, Brussels, Vol. 32 No. 2, April 87

Sun Tzu, The Art of War, translated by Samuel B. Griffith, Oxford University Press, New York, 1971

Sunday Times Insight Team, The Falklands War-The Full Story, Sphere Books, London, 1984

US Congress House Committee on Foreign Affairs, Latin America and the United States after the Falklands/Malvinas Crisis, US Government Printing Office, Washington, 20 Jul/5 Aug 1982